

REMARKS

This is intended as a full and complete response to the Office Action dated August 8, 2003, having a shortened statutory period for response set to expire on November 10, 2003. Claims 10-19 have been allowed. Claims 1, 3, 6, 9, 11, 20-21, 24, 26 and 34-35 have been amended to more clearly recite aspects of the invention. Claims 7-8, 27, 29, 33 and 39 have been rewritten in independent form to include the limitations of the base claim and any intervening claims. Applicants believe no new matter has been introduced by the amendments presented herein. The amendments have been made in a good faith effort to advance prosecution on the merits. Please reconsider the claims pending in the application for reasons discussed below.

Claims 20-40 stand rejected under 35 U.S.C. § 112, second paragraph. More specifically, the Examiner takes the position that claim 20 is indefinite for crossing two statutory categories of invention. That is, claim 20 is directed to a signal-bearing medium, which is a product, and also a method being performed by the product. Further, claims 20-40 stand rejected under 35 U.S.C. § 101 as being directed to neither a process nor a machine, thereby overlapping two statutory classes of invention. Applicants respectfully traverse these rejections. Applicants believe that claims 20-40 are directed to statutory subject matter. (See, MPEP 2106). Nevertheless, the preamble of claim 20 has been amended to replace "causes the execution of a method" with "performs an operation". Accordingly, the rejections under § 112, second paragraph and § 101 have been overcome, and withdrawal of the rejections are respectfully requested.

Claims 1-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,742,395 (*Biedermann*). *Biedermann* is generally directed to a method and apparatus for checking semiconductor wafers. The apparatus includes an annular lighting device configured to provide direct illumination on the semiconductor wafer. The apparatus further includes a camera disposed vertically above the center point of the semiconductor wafer. The camera is connected to an evaluation device configured to control the camera. The evaluation device is further configured to receive, store, process and output data transmitted from the camera. As such, the camera and the

evaluation device are configured to ascertain the degree of reflection or reflectance of the light reflected from the semiconductor wafer surface. The evaluation device is also configured to form a mean value from all of the values ascertained. Any deviation of this mean value by more than a predetermined amount from a predetermined value is considered to indicate a defect. *Biedermann*, however, does not teach or disclose determining a topographical condition of the surface based on the difference between the mean value of the signal signature information and the reference mean value, wherein the signal signature information may be indicative of process uniformity on the surface of the substrate. *Biedermann* merely suggests any deviation of a mean value by more than a predetermined amount from a predetermined value as indicative of a defect. Accordingly, claim 1 is patentable over *Biedermann*. Claims 2-6 are also patentable over *Biedermann* since they depend from claim 1. Allowance of these claims is respectfully requested.

Claims 20-26, 28, 34-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,644,172 (*Sandland*) in view of *Biedermann*. *Sandland* is generally directed to an automatic wafer inspection system, which includes an optical system for effecting a macro inspection of a wafer and storing a unique image thereof. The system further includes an apparatus for moving the wafer from the macro inspection station to the micro inspection station so that the area of the wafer corresponding to the stored unique image is in a micro optical path. The system further includes an autofocus apparatus for automatically focusing the lowest magnification objective lens on the area of the wafer to derive a real time image, a comparator for comparing the stored unique image to the real time image, and an apparatus configured to more precisely position the wafer in the micro optical path in response to the comparison of the stored unique image with the real time image. *Sandland*, however, does not teach, disclose or suggest comparing a mean value of the data and a mean value of reference data to determine a topographical condition on a surface of the substrate, wherein the data may be indicative of process uniformity on the substrate surface.

As mentioned above, *Biedermann* is generally directed to a method and apparatus for checking semiconductor wafers. Like *Sandland*, *Biedermann* also fails to

teach, disclose or suggest comparing a mean value of the data and a mean value of reference data to determine a topographical condition on a surface of the substrate, wherein the data may be indicative of processing uniformity on the substrate surface. Rather, *Biedermann* suggests that any deviation of a mean value by more than a predetermined amount from a predetermined value is indicative of a defect.

Neither *Sandland* nor *Biedermann*, alone or in combination, teaches or discloses comparing a mean value of the data and a mean value of reference data to determine a topographical condition on a surface of the substrate, wherein the data may be indicative of processing uniformity on the substrate surface. Furthermore, there is no suggestion discerned in *Sandland* or *Biedermann* of modifying the devices or methods disclosed therein in the direction of the present invention, nor does there appear to be any suggestion of the desirability of such modifications. Therefore, claim 20 is patentable over *Sandland* in view of *Biedermann*. Claims 21-26, 28 and 34-38 are also patentable over *Sandland* in view of *Biedermann* since they depend from claim 20. Allowance of these claims is respectfully requested.

Claims 30-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sandland* in view of *Biedermann* and further in view of U.S. Patent No. 5,127,726 (*Moran*). *Moran* is generally directed to a system for low angle, high resolution surface inspection. The system includes a scanning laser inspection system for quickly inspecting the surface and identifying flaws. The system is also configured to generate a flaw map graphically illustrating the article surface and the respective locations of the flaws. However, *Moran* does not teach, disclose, or suggest comparing a mean value of the data and a mean value of reference data to determine a topographical condition on a surface of the substrate, wherein the data may be indicative of processing uniformity on the substrate surface. Therefore, *Sandland*, *Biedermann* and *Moran*, alone or in combination, fail to teach, disclose or suggest comparing a mean value of the data and a mean value of reference data to determine a topographical condition on a surface of the substrate, wherein the data may be indicative of processing uniformity on the substrate surface, as recited in claim 20. Since claims 30-32 depend from claim 20 and since *Sandland*, *Biedermann* and *Moran*, alone or in combination, fail to teach, suggest or disclose all the limitations of claim 20, claims 30-32 are therefore also

patentable over *Sandland*, *Biedermann* and *Moran*. Allowance of these claims is respectfully requested.

Claims 10-19 are allowable over the prior art of record. Claims 7-9, 27, 29, 33 and 39-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 7-8, 27, 29, 33 and 39 have been rewritten in independent form, including all of the limitations of the base claim and all intervening claims. Accordingly, claims 7-8, 27, 29, 33 and 39 are in condition for allowance. Claims 9 and 40 are also in condition for allowance since they depend from claims 7 and 39, respectively.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed method or apparatus. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

Respectfully submitted,



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